PHOENIXALGOS DYNAMIC UNIVERSE MANAGEMENT & CLOUD SYNC ARCHITECTURE

Zero-Container-Redeploy GCS Multipart Ingestion, Customer DB Preservation & 24h Stale Pruning

Official Self-Help Documentation • Certified Technical Manual

1. Executive Summary: The Cloud Run Ephemeral Disk Dilemma

Auto Trading Web (ATW) operates on Google Cloud Run with an ephemeral container disk housing the live registered customer SQLite database (users.db). Performing a full container rebuild or deployment merely to update a stock universe would scale the running instance to zero, wiping customer accounts. The Dynamic Universe Architecture solves this challenge completely.

2. Two-Stage Zero-Redeploy Ingestion Pipeline ('atw up')

Watchlist and universe updates are executed via a two-stage zero-redeploy pipeline:

- Stage 1 (GCS Edge Cache): The CSV universe is copied to Google Cloud Storage (gs://unique-outcome-168720-atw-ui/data/), making it immediately readable by edge proxies.
- Stage 2 (Live API POST): The script transmits the universe file via multipart/form-data POST to https://phoenixalgos.com/api/prediction/universe/upload. The running backend receives the file into RAM memory, updates prediction cones, and confirms total symbol count with zero server downtime.

3. Automated 24-Hour Stale & Delisted Pruning Guard ('pred clean')

Stock symbols can be abruptly delisted, suspended, or enter bankruptcy. To prevent algorithmic trading against defunct securities, the engine enforces an automated 24-Hour Clean Guard. Whenever 'pred' or 'atw up' is executed, the system checks last_universe_clean.json. If the last audit exceeds 24 hours, it automatically audits all symbols against Alpaca's asset registry, pruning delisted or non-tradable tickers across local repositories and Google Drive.

4. Dedicated Sub-Cues for Administrators

- pred file: Generates fresh prediction_universe.csv from core sectors and Alpaca options.
- pred up: Uploads universe to ATW cloud with zero redeployment.
- pred down: Downloads active cloud universe with automated version incrementing (_1.csv, _2.csv) if changed.
- pred clean: Audits and prunes delisted/stale symbols immediately across all environments.